

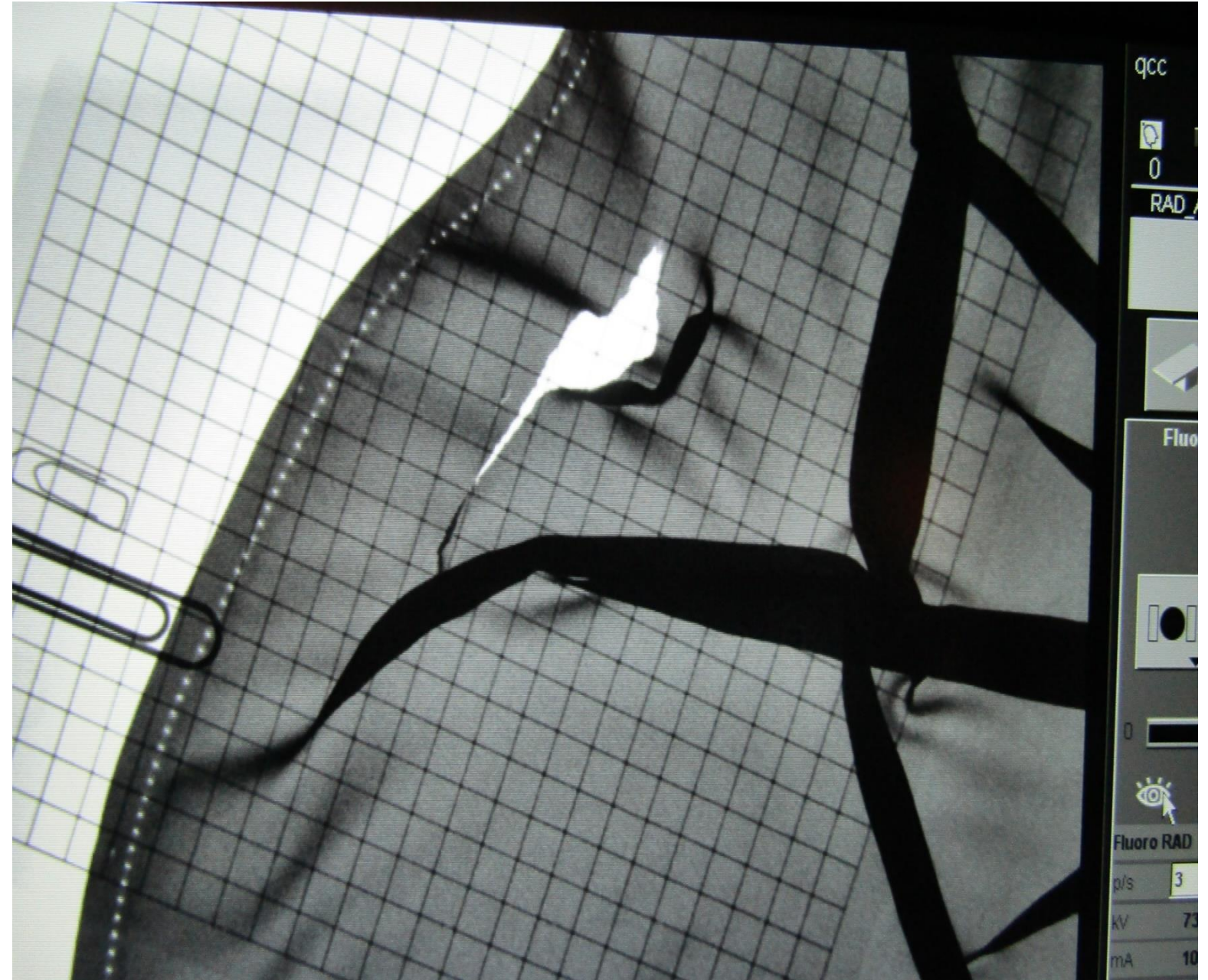
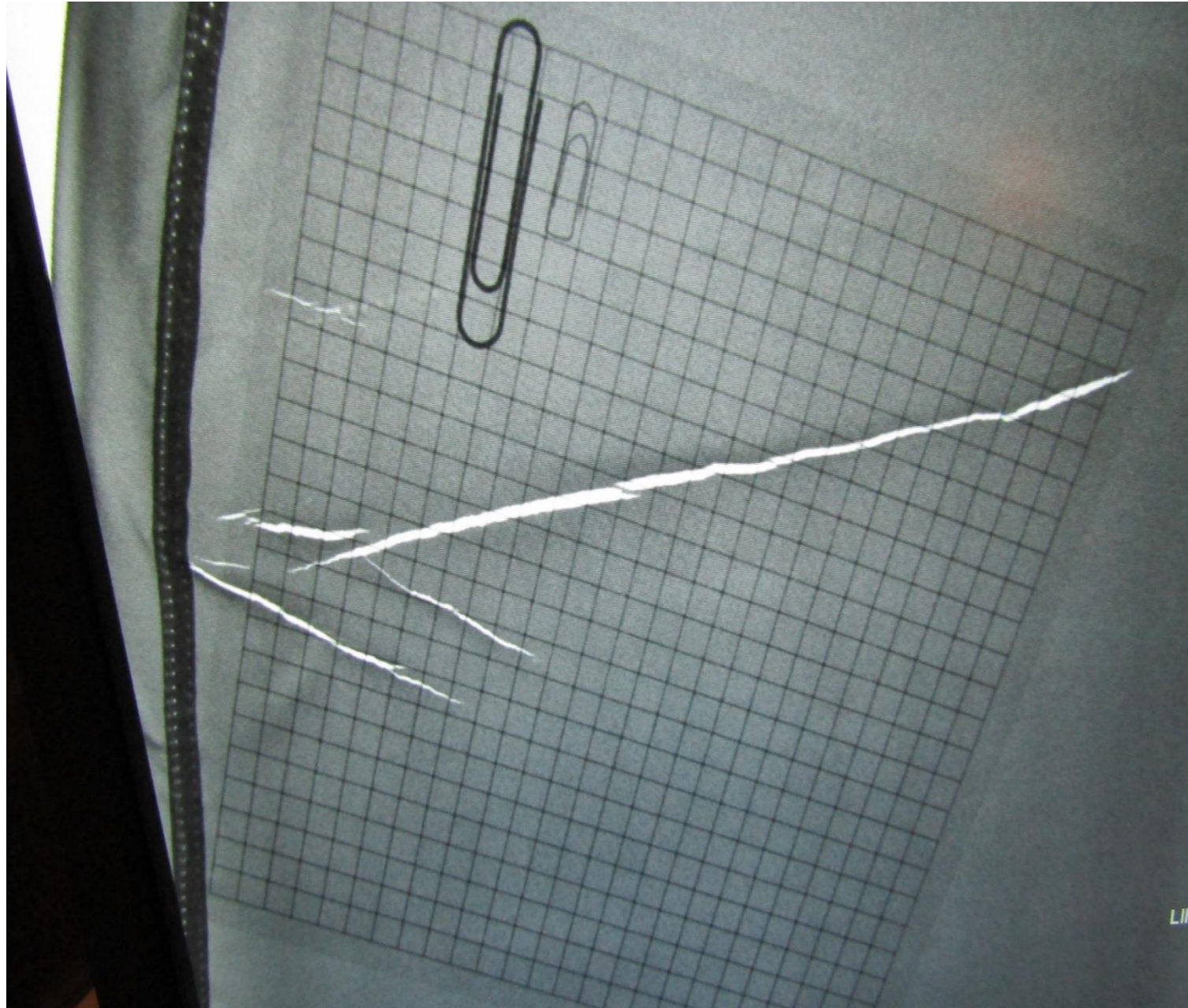


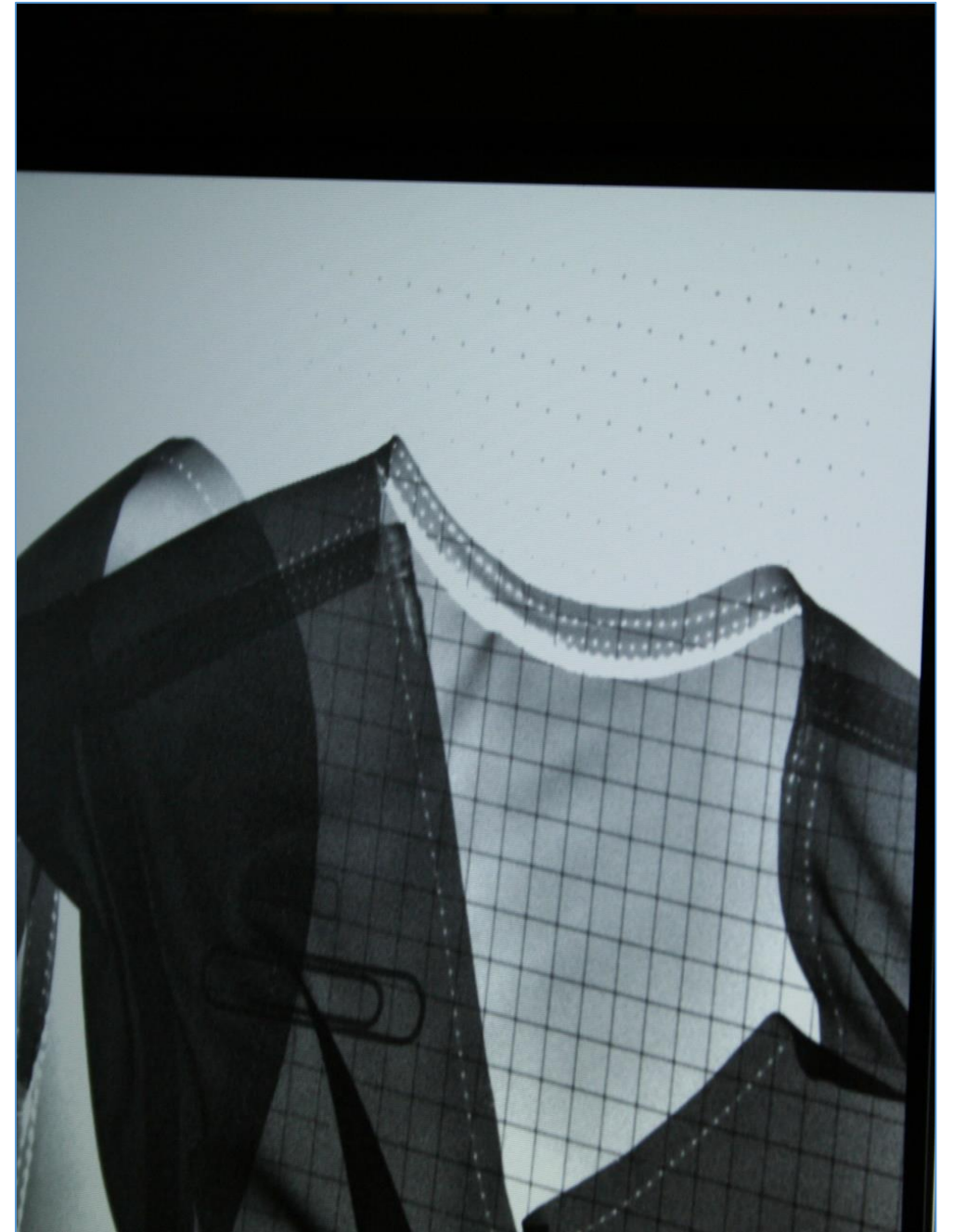
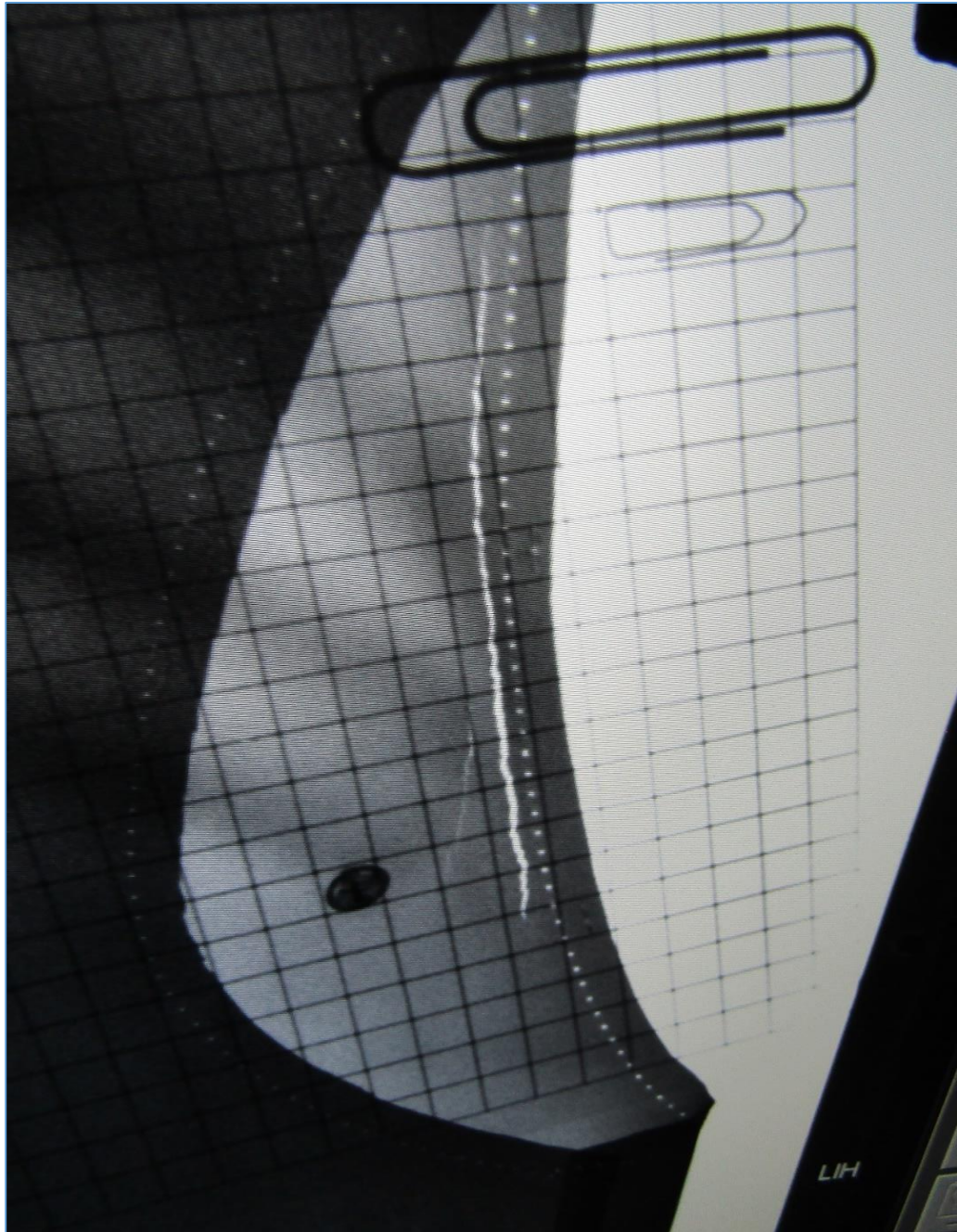
**GHENT
UNIVERSITY**

INTEGRITY OF PRPE: A 4-YEAR FOLLOW UP

Pieter-Jan Kellens

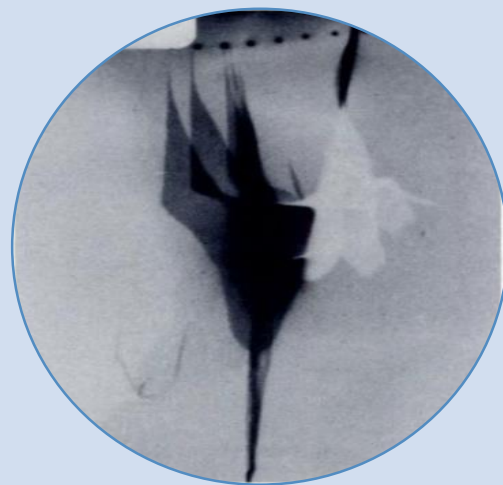
LEAD APRONS: THINGS YOU MIGHT HAVE SEEN



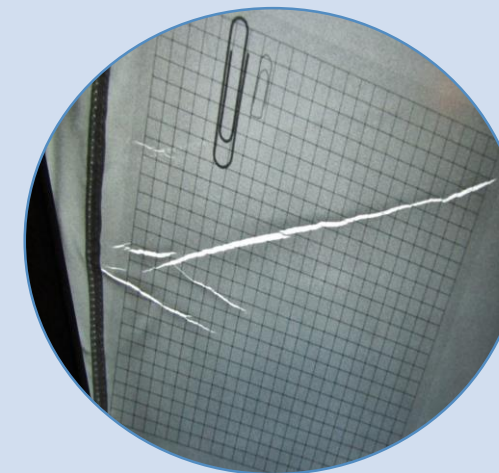
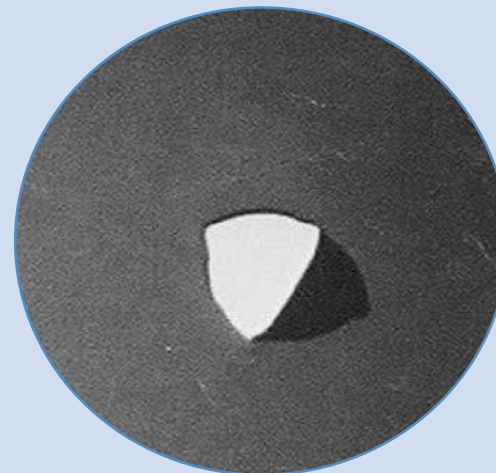


CRACKS AND TEARS: INDICATIONS

1984¹: pure lead -> cracks



2021: integrity failure continues?



1991²: lightweight elements introduced -> better?

¹Glaze S, LeBlanc AD, Bushong SC. Defects in new protective aprons. Radiology. 1984;152(1):217-8.

²Yaffe MJ, Mawdsley GE, Lilley M, Servant R, Reh G. Composite-Materials for X-Ray Protection. Health Physics. 1991;60(5):661-4.

→ Regular quality control?

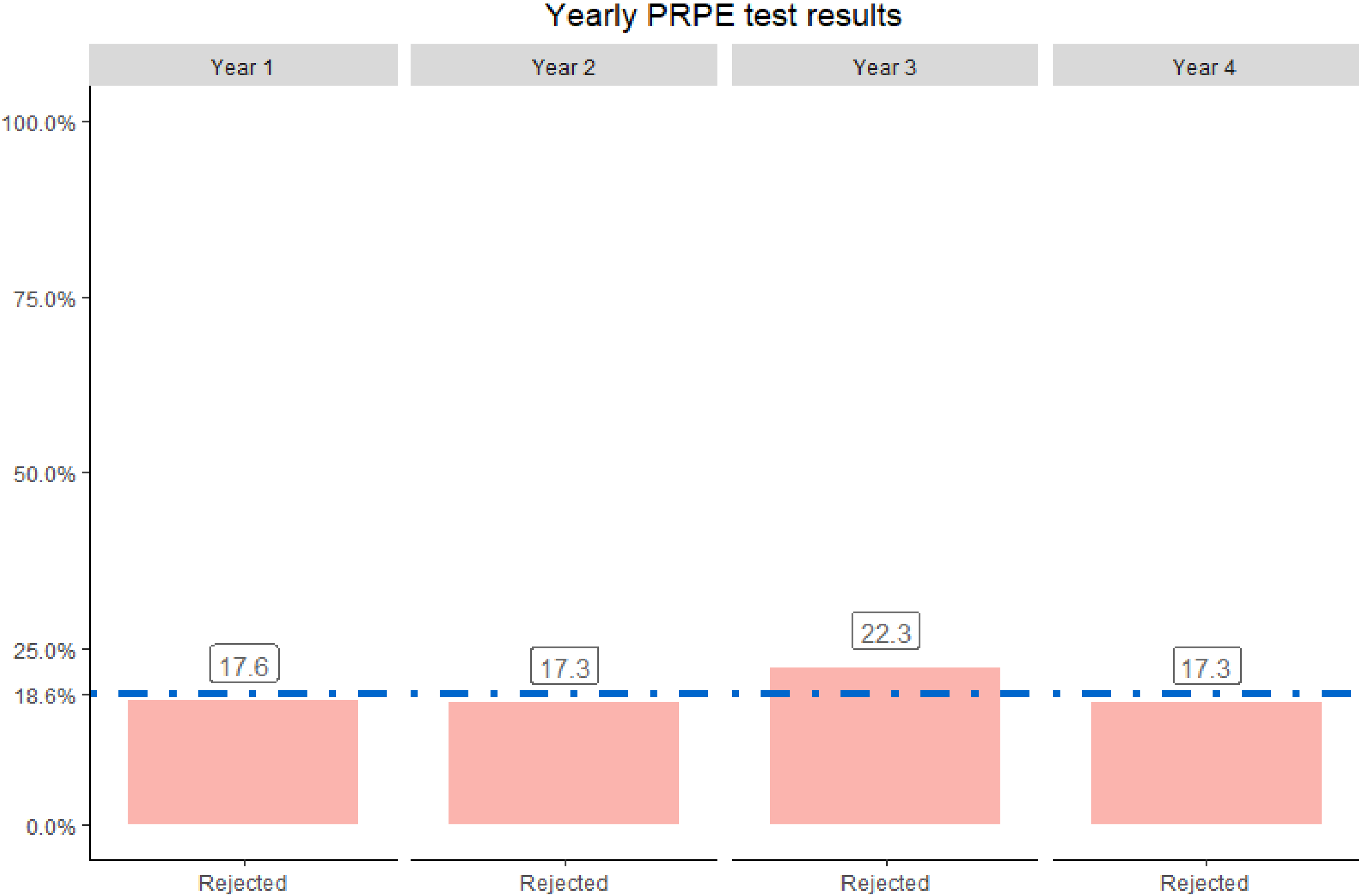
→ Also for new pieces?

→ Repair PRPE?

1011 unique pieces \Leftrightarrow 2588 quality checks

- 47.3% (478/1011) with tears \rightarrow 31% (148/478) rejected using Lambert & McKeon³

REGULAR QC



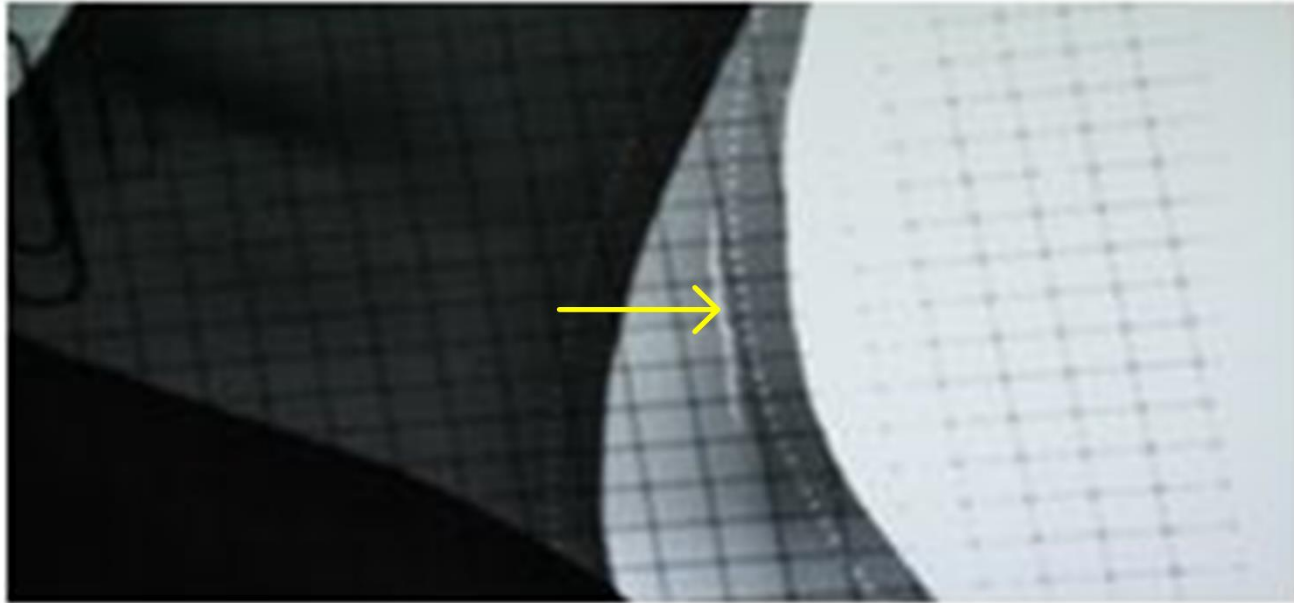
NEW PIECES GUARANTEED?

287 new pieces

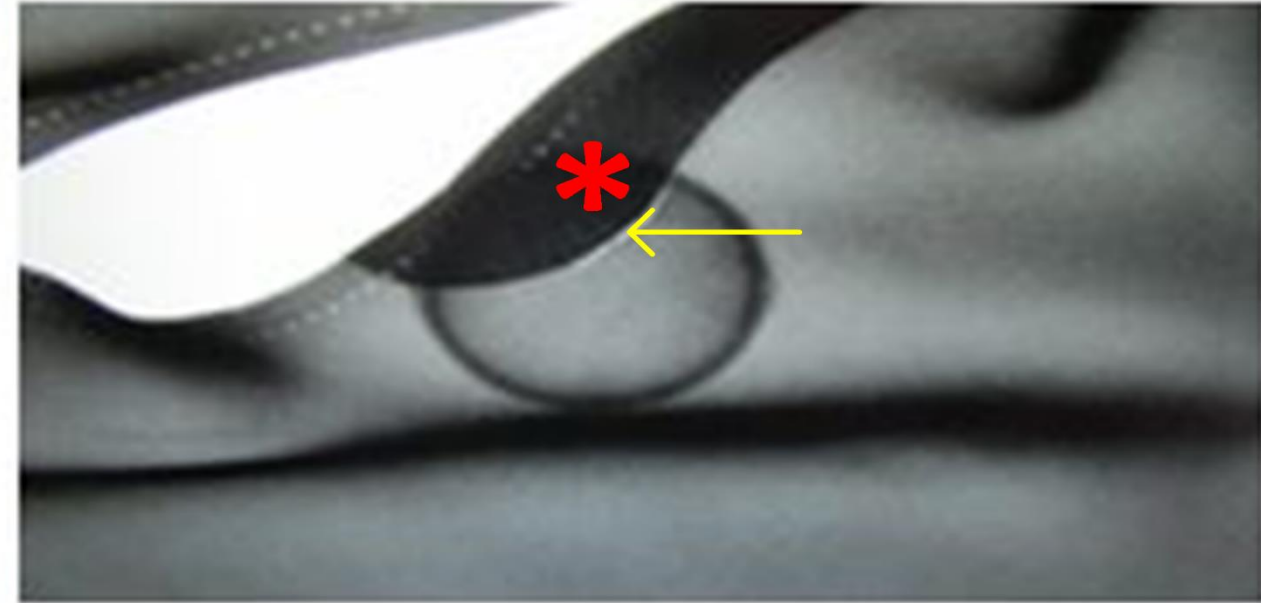
- **6.0% (17/287) with tears in 1st year → 88.2% (15/17) rejected using Lambert & McKeon³**

REPAIRED PIECES GUARANTEED?

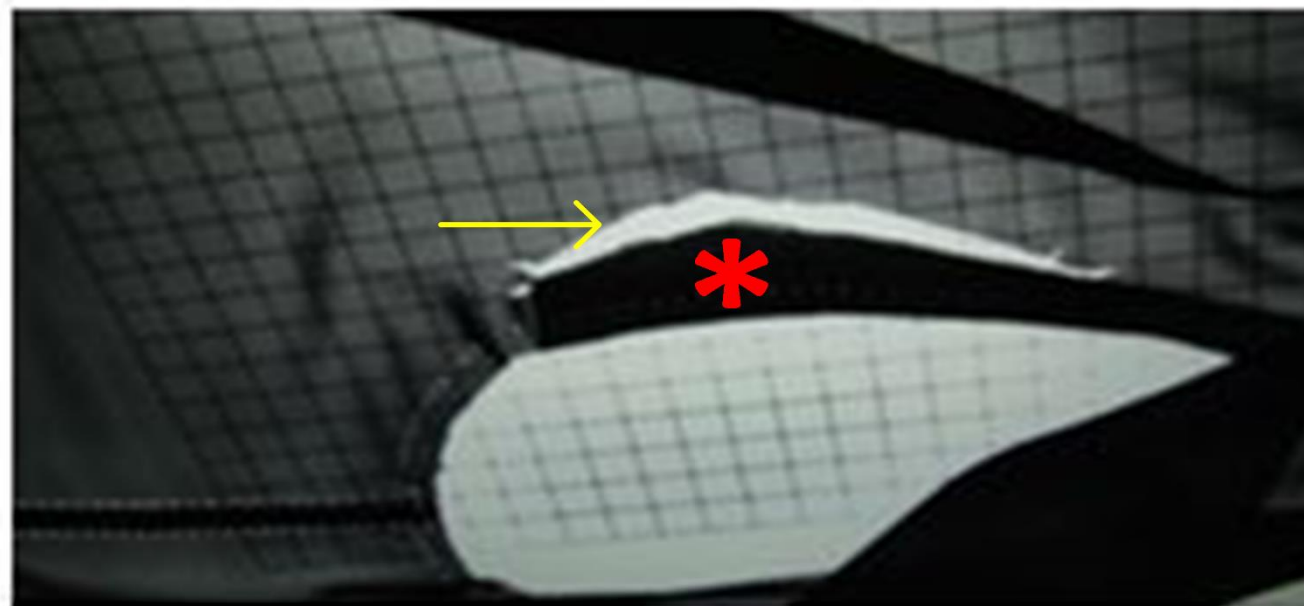
2018



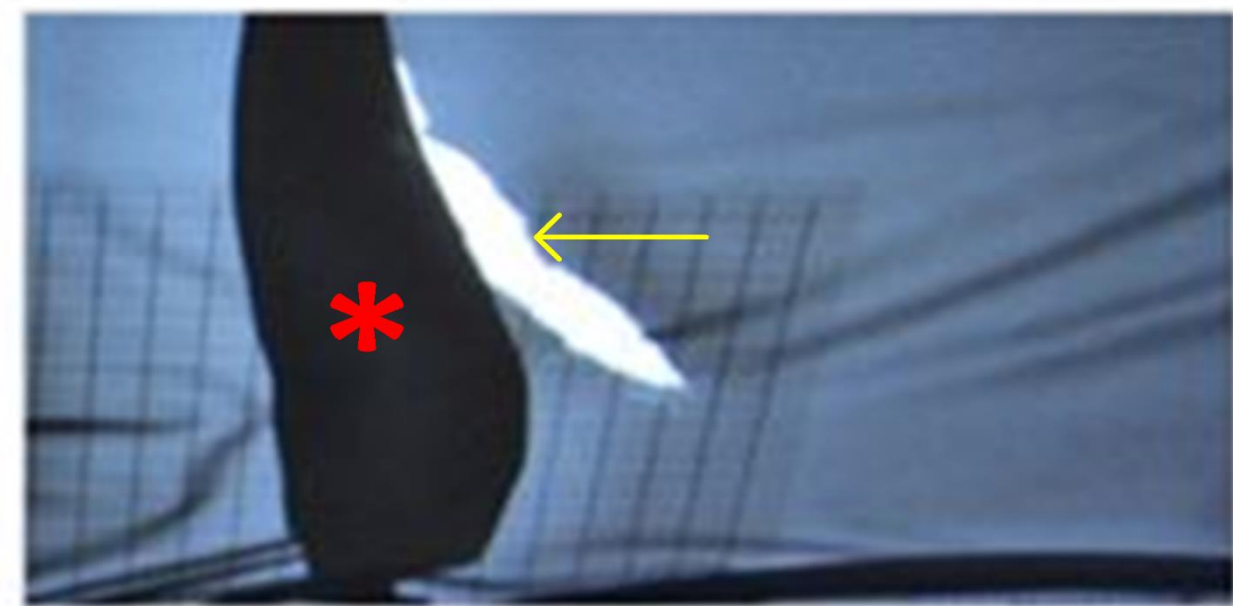
2019



2020



2021

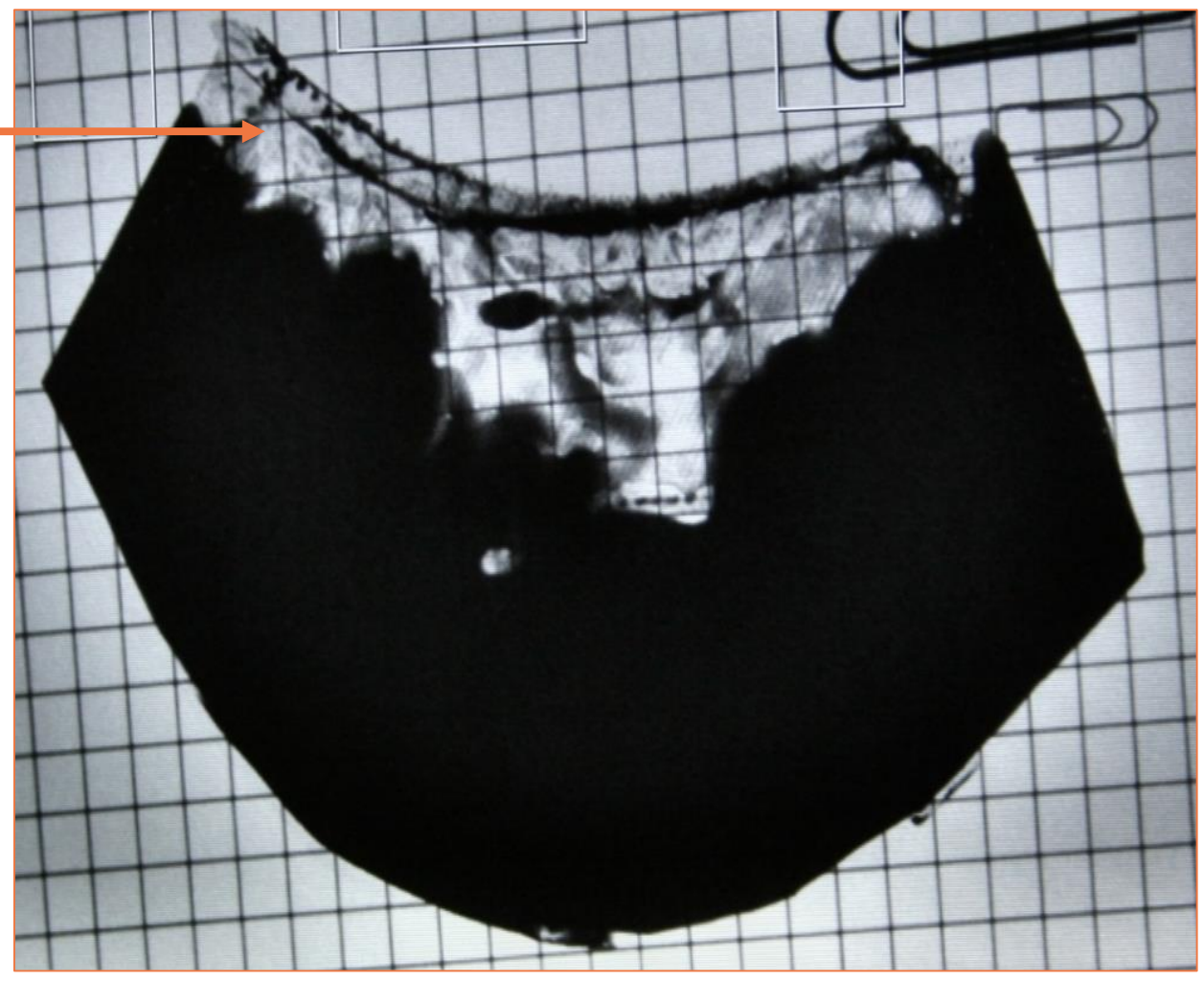
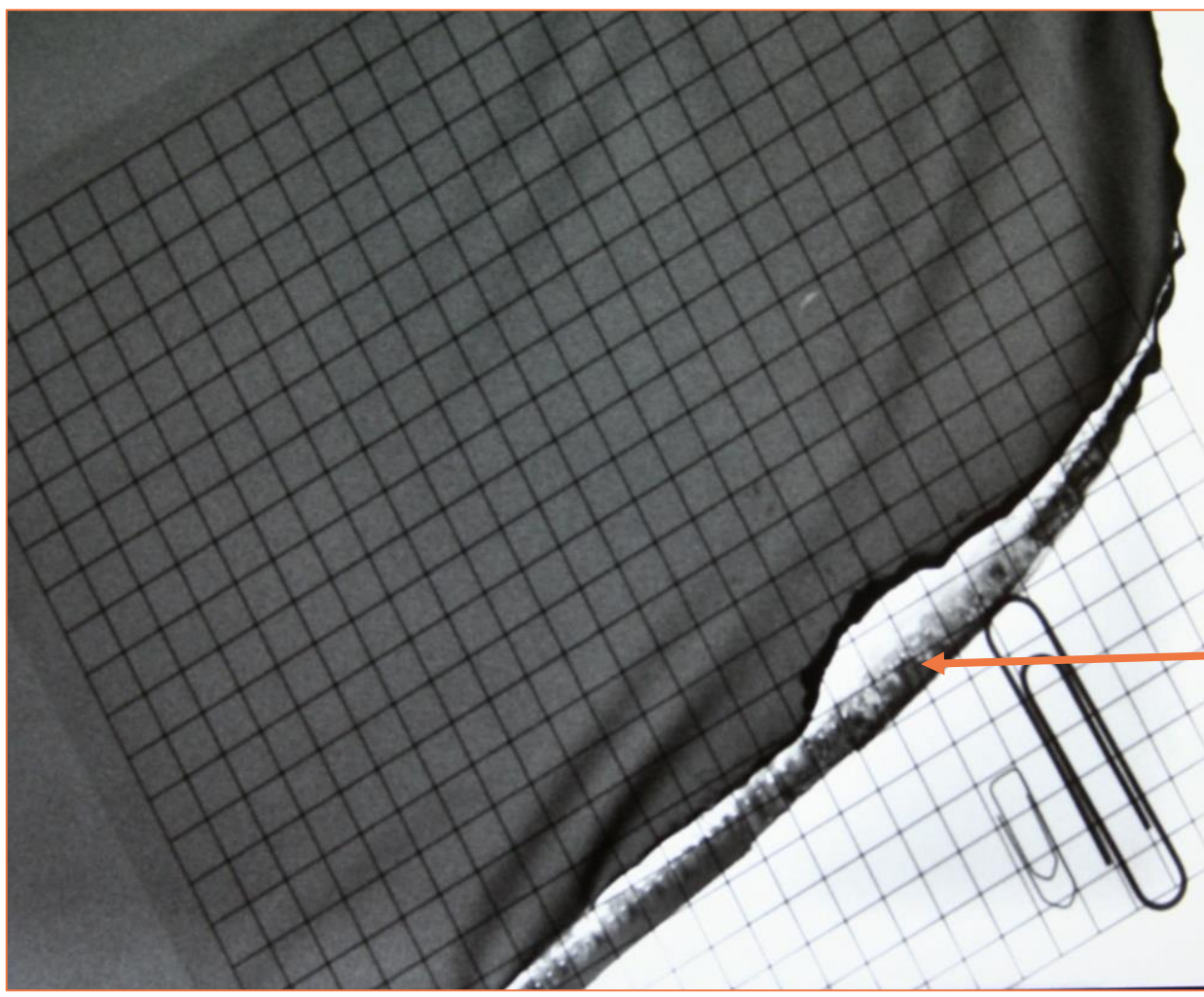
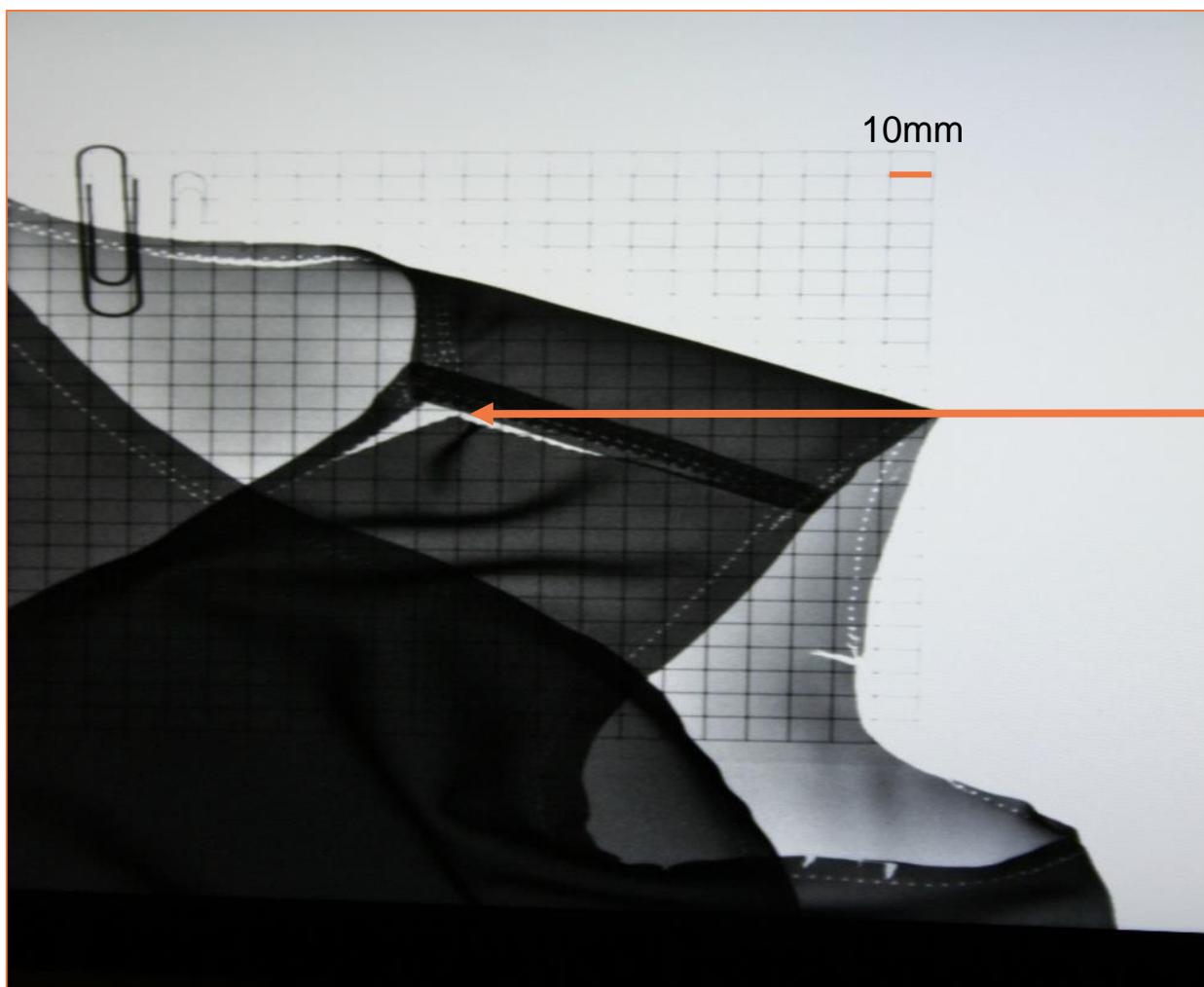


VISUAL INSPECTION



PRPE INTEGRITY

X-ray based integrity analysis of PRPE



CAVEATS

- Departments?
- Materials?
- User?
- Criteria?
- Tear analysis?

TAKE-HOME MESSAGE

Regular QC

→ From the beginning

→ After repair